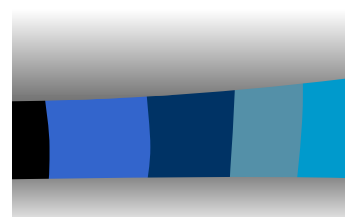
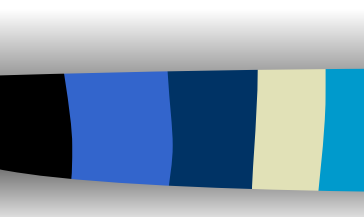


Gulf States Marine Fisheries Commission

Fisheries Information Network

Overview



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Objectives

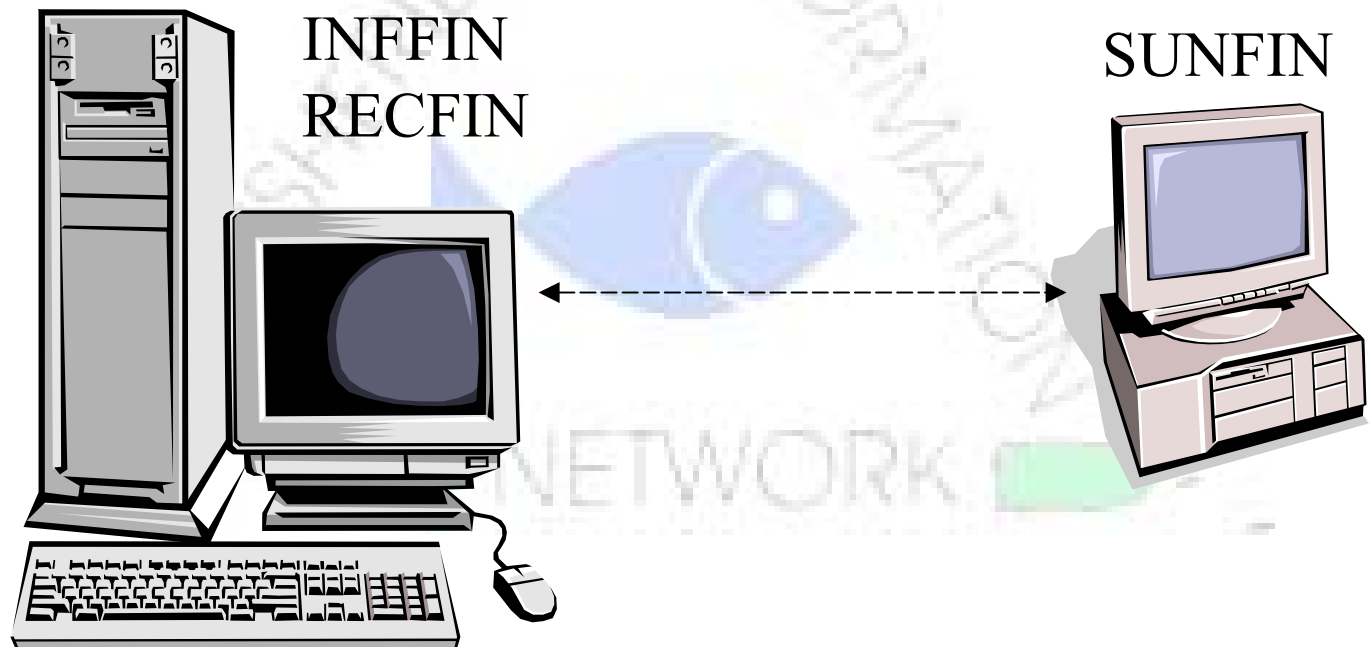
- Overview of the GSMFC FIN.
- Discuss problems and solutions encountered in the development of the FIN program thus far.
- Discuss methods of data loading, transfer and storage between FIN and FIS.

FIN Layout

RECFIN: Reconciled Data Layer

INFFIN: Informational Data Layer

SUNFIN: Backup Data Layer





FIN Layout

RECFIN: Reconciled Data Layer

INFFIN: Informational Data Layer

SUNFIN: Backup Data Layer

- Installed on a **SUNFIRE V880**.
- Contains states data - 20,413,157 landings records.
- Contains complete reference data tables. (Areas_Fished, Species...)
- Backups: Taken offline weekly for full backups and exports.
- Processes all data extracts, data loads and data checks using PL/SQL, SQLPLUS and UNIX tools. This keeps INFFIN process time low and output performance high.
- Partitioned table spaces per data source (State).
- Secure behind firewall, separated from INFFIN.



FIN Layout

RECFIN: Reconciled Data Layer

INFFIN: Informational Data Layer

SUNFIN: Backup Data Layer

- Installed on a **SUNFIRE V880**.
- Commercial data can be recreated from the **RECFIN** instance.
- Always online, nightly data exports.
- Contains subsets of states data derived from the **RECFIN** instance - 20,413,157 landings records. (Should always match **RECFIN**)
- Contains yearly summarized Landings data for the public sector.
- Contains monthly summarized Landings data for the private sector.
- All tables are partitioned for performance.
- Contains summarized **NMFS - ALS** historical data for both public and private sectors. (Merged with the monthly and yearly summarized Landings)
- Maintains the **RULE OF THREE** for data confidentiality.
- Additionally contains **SEAMAP**, **GSMFC** Registration, **Gulf Coast Artificial Reef** data, confidential **Menhaden** data, **MRFSS** Recreational Biological data, and **Zip Code** data.
- Uses “**Business Objects – WebIntelligence**” as a front end for data access.

FIN Layout

RECFIN: Reconciled Data Layer

INFFIN: Informational Data Layer

SUNFIN: Backup Data Layer

- Installed on a SUN Blade.
- Contains all data from RECFIN and INFFIN via data imports.
- Contains 40,826,314 landings records. (Double)
- Can be used in place of RECFIN or INFFIN in the event that the V880 crashes (Change the IP).
- Is secure behind a firewall, separate from INFFIN and RECFIN.
- Used for new program development and updates to existing programs.

FIN Tables NUTSHELL

Participants

Commercial Fishermen,
Dealers

Partners

NMFS, ACCSP, STATES...

Fishing Gears

Nets, Hook and Line...

Areas Fished

Primary, Sub_area

Market Categories

Count, Cherry, Pounds..

Grade Categories

Landing Condition.
Fresh FINS, Heads, Round..

Metadata

Weather, Loads, fish kills..

Biological

Landings

Primary Catch & Effort

By way of
DEALER REPORTS

Detailed Catch and Effort

Trip

Total Trip, Fish Time,
Net time per area..

Effort

Days at Sea, Areas Fished

Distances

Off Shore, Inland...

Catches

Catch per Area, per drop.

Species

Only as required

Vessel

Registration...

Disposition

Fate of the catch
Pet food, taken home, canned...

Unit Of Measure

Feet, meters...

Problems & Changes

- **Data Nomenclatures & Terms** - Different meanings for the same element. Jumbo, large, med, small. Terms: Landing vs. Sale... Codes: CT vs. CN. Systems: FIS/FIN differences?
- **Partner Nomenclatures** - What is a Trip in FIS vs. FIN? (Catch, Landing, detailed effort.....etc)
- **Species** - ITIS code standards for all states.
- **Areas Fished** - standards for all states.
- **Data lengths** - Different sizes for the same element. Dealer ID is 10 in one state and 15 in another.
- **Zero Filling** - To left justify....
- **Data Types** - Area Fished is numeric in state A and non-numeric in state B.
- **Multiple Trips Per Single Dealer Report** - (Different FORM versions). Having to incorporate the Ticket Number + .1, the State Code, the Dealer License Number, the Form Version and the Unload Date into the Primary Key.
- **Multiple Days At Sea Fishing** - One trip, different areas, different species, different dates.
- **Landing** - in Florida, sold to a dealer in Mississippi.
- **Landing** - in Florida, half sold to a dealer in FL, half sold to a dealer in MS.
- **Landing** - in Mississippi, half sold to a dealer, half taken home by the fishermen.

Problems & Changes cont.

- **State historical data** - Incomplete. Relax constraints? Magic fill blanks? The totals landed are of the greatest importance.
- **Vessel information** - Captain Pete on Vessel A today and Vessel B tomorrow. Vessel sold to different Fishermen later or transfer to another state....
- **Keeping data online with a fast retrieval speed** - Separated data into separate instances.
- **Data Reloads** - Added the event_id (#MMYY) for tracking purposes. 10803 would be the 1st file loaded for a data sent in the month of August 2003. This file could contain data from several months. If the entire 10803 file requires reloading, we simply delete all records by state_code and event_id and reload. Because of the deletion process by event_id, this type of reload requires that the resent file contain the same records as the original file, or there will be data problems. Must keep a “great” attitude towards states for these reloads.
- **Data Updates - Event_id** - An update for a State could be one or many records in a single file and contain updates for several months or the entire year. If an update occurs for the month of August 2003, then the event_id would be 20803.
- **Data from States to FIN to FIS Tracking** – Tracking data between the States, FIN and FIS. Event_id? by Record & Load _Date where they differ? How often to update?
- **FIN will NEVER** change the States data. Data is returned to States for corrections if needed.

Problems & Changes cont.

- **User Permissions** – Keeping track of required users paperwork (Non-Confidentiality Form) between the States, NMFS, GSMFC, ACCSP, FIS.... Perhaps a central repository with these forms scanned into a dataset for all partners to access as required? User Tracking?
- **User Education** – Cartesian Products... Educate the users on “How” to extract data from the FIN/FIS. It is possible to ask for Shrimp caught in FL for year 1999 with Gear Type equal to Hook and Line. This would return zero results and give the impression that the data is incorrect. User Education will prevent this to some degree.
- **Central Repositories?** Develop a set of centralized tables that contain a “STANDARD” for all codes that all states and FIN/FIS can access if required. (Areas, Grades, Metadata, Species, Sizes....) We now have different codes between states for the same meanings and this causes problems for the reference tables.
- **Enforcement Module?** Addition of an Enforcement module to the existing database. Enforcement will cause metadata events and also could be used to increase data accuracy. (e.g.. If the coast guard inspects a vessel, they can give an estimate of the current catch, location and crew.... This information can be passed on to the perspective state and added to the database.
- **Web Forms** - Keep them simple. A large portion of the users will be fishermen and a form that appears complex to them may cause them to not use the system.

Problems & Changes cont.

- **FIN to FIS Data Transfers** - How to encode this data incase it is captured during transfer. **Do not share the Data File Layouts (DFL).** They contain the key to the transferred data.
- **FIN to FIS Data Transfers** – How to determine what data is to be sent to FIS from FIN for updates? Data_Load_Date could be used. Any data_load_date greater than the last update would be considered.
- **FIN to FIS Data Transfers** – How to handle data updates/changes to the FIS from the States and then pass the updates/changes on to FIS.
- **FIN to FIS Data Transfers** – How often to update FIS from FIN?
- **FIN/FIS Compatible** – How to keep FIS and FIN reference tables in sync. If the states add a new area fished, FIS adds it, FIN must add it also. (Again, Centralized Repository!!!)

FIN Data Loads

- State data is received as flat text file either delimited or column matched. The data is loaded into temp tables, data checks completed and then the data is transferred into main tables by way of SQL loader and PL/SQL. During this transfer process, more data checks are completed and error / load results sent back to the states for review. In some cases a complete reload of the sent file is required.
- As both GSMFC and ACCSP require Florida data, and in order to prevent duplicate processing, ACCSP currently processes the Florida data and GSMFC extracts and loads this data into RECFIN.
- NMFS ALS data is extracted directly from the ALS system and into RECFIN.
- FIS Requirements?

Notes:

